Math 212
Quiz 08

F 09 Sep 2016

Your name: _____

Exercise

(5 pt) Let $\mathbf{r} : \mathbf{R} \to \mathbf{R}^3$ be the position function of a particle, given by

$$\mathbf{r}(t) = \left(\cos(2t), \frac{2}{3}\left(t^2+2\right)^{\frac{3}{2}}, \sin(2t)\right).$$

(a) (2 pt) Write the velocity of the particle at time t. *Hint:* Recall that velocity is the rate of change of position with respect to time.

(b) (3 pt) Find the minimum speed of the particle. *Hint:* Recall that speed is the magnitude of the velocity vector.